

AMENDMENTS TO THE CLAIMS

1. (original) A method for backing up a primary logical unit within a data storage device, the primary logical unit and a backup logical unit together comprising a mirror-logical-unit pair, the method comprising:

receiving a trigger I/O request by the data storage device;

inserting a TRIGGER message corresponding to the I/O request into a queue that contains a portion of a sequenced stream of I/O requests directed to the primary logical unit;

de-queuing the TRIGGER message from the queue, and initiating a mirror split operation directed to the primary logical unit;

sending the TRIGGER message to the backup logical unit; and

after completion of the mirror split operation, maintaining the backup logical unit as a backup copy of the primary logical unit.

2. (original) The method of claim 1 wherein the backup logical unit is an active member of a pool of backup logical units managed by a controller of the data storage device.

Please cancel claim 3.

4. (original) The method of claim 1 wherein the backup logical unit is a primary backup logical unit associated with a pool of backup logical units including an active backup logical unit and inactive backup logical units.

5. (original) The method of claim 1 wherein the primary logical unit is associated with a local pool of backup logical units and with a remote primary backup logical unit associated with a remote pool of backup logical units.

6. (original) The method of claim 1 wherein the primary logical unit is distributed among multiple data storage devices.

7. (original) The method of claim 6 wherein the TRIGGER message is inserted into queues within the multiple data storage devices.

8. (original) The method of claim 1 wherein the backup logical unit is distributed among multiple data storage devices.

9. (original) The method of claim 8 wherein the TRIGGER message is inserted into queues within the multiple data storage devices.

10. (original) The method of claim 1 wherein the trigger I/O request is a special request comprising one of:

- an I/O request transmitted to a special logical unit provided by the data storage device;

- an I/O request transmitted to the primary logical unit by a special path;

- a special TRIGGER I/O request transmitted to the primary logical unit;

and

- an I/O request transmitted to the data storage device on a separate communications medium.

11. (original) A data storage device that provides efficient backup generation to an external program running on a host computer, the data storage device comprising:

- a primary logical unit that, together with a backup logical unit, comprises a mirrored logical-unit pair; and

- a controller that receives and recognizes a trigger I/O request directed to the primary logical unit, queues a TRIGGER message corresponding to the trigger I/O request in sequence with other received I/O requests, and initiates a mirror split operation

directed to the mirrored logical-unit pair when the TRIGGER message is de-queued by the controller for execution.

12. (original) The data storage device of claim 11 wherein the controller forwards the TRIGGER message to the backup logical unit in sequence with other received I/O requests forwarded by the controller to the backup logical unit.

13. (original) The data storage device of claim 11 wherein the trigger I/O request is a special request comprising one of:

- an I/O request transmitted to a special logical unit provided by the data storage device;

- an I/O request transmitted to the primary logical unit by a special path;

- a special TRIGGER I/O request transmitted to the primary logical unit;

and

- an I/O request transmitted to the data storage device on a separate communications medium.

Please cancel claims 14-17.